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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,759	04/26/2001	J. J. Garcia-Luna-Aceves	5543P004	2123

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EXAMINER

CHANKONG, DOHM

ART UNIT	PAPER NUMBER
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2152

DATE MAILED: 08/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/844,759

Applicant(s)

GARCIA-LUNA-ACEVES ET AL.

Examiner

Dohm Chankong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/10/01 5/5/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1> Claims 1-15 are presented for examination.

Claim Rejections - 35 USC § 102

2> The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3> Claims 1-6 are rejected under 35 U.S.C 102(b) as being unpatentable over Bhattacharjee et al, "Application-layer Anycasting", INFOCOM '97, pp. 1388-1396, Apr. 1997 ["Bhattacharjee"].

4> As to claim 1, Bhattacharjee discloses a method, comprising:
receiving a request for an information object at an anycast network address [Figure 1 <client sending Anycast query to the Anycast resolver>]; and
resolving the request to a corresponding unicast address for the information object [page 1, second column, first paragraph, page 2, first column <"...function of an application-layer anycasting service is to map an ADN into one or more (multicast or unicast) IP addresses."> and page 3 <chapter 3.1: What is a Replicated Service?> where: anycast domain name is equivalent to anycast network address and the network service (and server) is equivalent to an information object].

5> As to claim 2, Bhattacharjee discloses the method of claim 1 further comprising returning the unicast address for the information object [Figure 1 <client receiving mapped IP address from the Anycast response> and page 2, second column, first paragraph].

6> As to claim 3, Bhattacharjee discloses the method of claim 1 wherein the request is received at an information object repository selected without regard as to whether the information object is actually stored at the information object repository [Figure 1 <Anycast resolver> and Figure 2 where: local anycast resolver is the information object repository and the servers related to the ADN are equivalent in functionality to an information object].

7> As to claim 4, Bhattacharjee discloses the method of claim 3 further comprising instructing the selected information object repository to obtain a copy of the information object [Figure 2 and page 4, third paragraph].

8> As to claim 5, Bhattacharjee discloses the method of claim 3 wherein the information object repository is selected according to specified performance metrics [page 2, first paragraph].

9> As to claim 6, Bhattacharjee discloses the method of claim 5 wherein the performance metrics comprise one or more of: average delay from the selected information object repository to a source of the request, average processing delay at the selected information

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object repository, reliability of a path from the selected information object repository, available bandwidth in said path, and loads on the selected information object repository [page 6 <chapter 5.1: Metrics>].

10> Claims 7, 8, 10, 11 and 13-15 are rejected under 35 U.S.C 102(e) as being anticipated by McCanne et al, U.S Patent No. 6,415,323 ["McCanne"].

11> As to claim 7, McCanne discloses an information object repository configured to resolve a network layer anycast address to a network layer unicast address in response to a request for an information object at the network layer anycast address [column 10 <lines 36-50> where: anycast referral node is equivalent to an object repository].

12> As to claim 8, McCanne discloses the information object repository of claim 7 being further configured to resolve the network layer anycast address by transmitting a request for the network layer unicast address and awaiting a response thereto [column 11 <lines 24-36 and lines 58-65>, column 12 <lines 16-24> and column 13 <lines 35-42>].

13> As to claim 10, McCanne discloses a network, comprising:
at least one client configured to transmit a request for an information object using a network layer unicast address [column 10 <lines 36-43>]; and

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an information object repository configured to receive the request for the information object and to resolve the network layer anycast address into a network layer unicast address [column 10 <lines 36-50>].

14> Claim 11 is a network that contains the information object repository of claim 8.

Therefore claim 11 is rejected for the same reasons as set forth in above paragraph 12 for claim 8.

Claim Rejections - 35 USC § 103

15> The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16> Claims 9 and 12-15 are rejected under 35 U.S.C 103(a) as being unpatentable over McCanne in view of an Official Notice.

17> As to claim 9, McCanne discloses the information object repository of claim 7 to monitor if the request for the network layer unicast address is not received within a timeout period [column 13 <lines 35-36>] but does not specifically disclose that a failure message is sent to the source of the request for the information object.

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18> Official Notice is taken that it is well known and expected in the art to update the client about the failure of an information request, if that request is not received within a certain timeout period. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have implement this failure message utility into McCanne's information object repository to keep the clients informed that their request for information could not be handled at the specified unicast address.

19> Claim 12 is a network that contains the information object repository of claim 9. Therefore claim 12 is rejected for the same reasons as set forth in above paragraphs 18 and 19 for claim 9.

20> As to claim 13, McCanne discloses the network of claim 12 wherein the request for the network layer unicast address comprises a single IP packet that includes the network layer anycast address [column 3 <lines 57-67> and column 12 <lines 25-30> where: the client request 510 refers back to the 'packet of data'].

21> As to claim 14, McCanne discloses the network of claim 13 wherein the response to the request for the network layer unicast address comprises a single IP packet that includes the network layer unicast address [column 3 <lines 65-67> and column 11 <lines 60-62> where: the redirect message is equivalent in functionality to the IP packet].

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22> As to claim 15, McCanne discloses the network of claim 14 wherein the response to the request for the network layer unicast address is returned by a host having the network layer unicast address [column 16 <lines 18-26> where: 'S' is the host with the network layer unicast address].

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art in regards to anycast networks:

U.S Patent No. 5,822,320 to Horikawa et al;

U.S Patent No. 6,108,703 to Leighton et al;

U.S Patent No. 6,236,652 to Preston et al;

U.S Patent No. 6,687,731 to Kavak;

U.S Patent No. 6,721,291 to Bergenwall et al.

The following non-patent literature is cited to further show the state of the art in regards to network layer unicast:

Basturk, Erol, Engel, Robert, Haas, Robert, Peris, Vinod, and Saha, Debanjan. "Using Network Layer Anycast for Load Distribution in the Internet", IBM Research Report, 07.29.1997.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dohm Chankong whose telephone number is (703)305-8864. The examiner can normally be reached on 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (703)305-8498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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